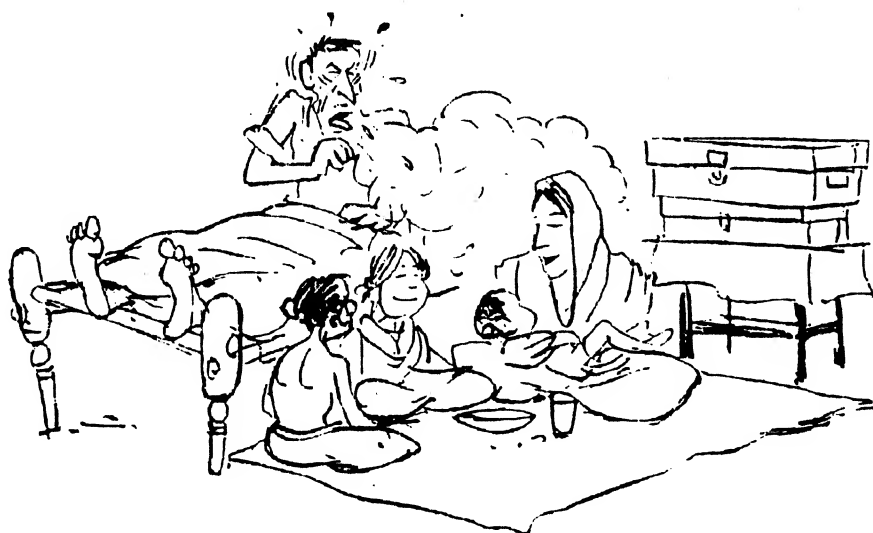




Tuberculosis Control Programme in North West Frontier Province (Pakistan)



ANNUAL REPORT 1994

ICD

Italian Cooperation for Development

Direzione Generale per la Cooperazione allo Sviluppo
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ABBREVIATIONS

AG	Afghan Government
AHSAO	Afghan Health and Social Assistance Organization
AMA	Afghan Medical Aid
AMIA	Aide Medical International for Afghanistan
ANH	Afghanistan Nothilfe
ARC	Austrian Relief Committee (now FPHS)
ASC	Afghan Support Committee
BHU	Basic Health Unit
CARP	Caritas Afghan Refugees Programme
CHREP	Christian Hospital Refugees Extension Project (now CWS)
CWS	Church World Service
DCR	Danish Committee for Aid to Afghan Refugees
FPHS	Frontier Primary Health Care
EPT	Extra Pulmonary Tuberculosis
GAC	German Afghanistan Committee
HAF	Help the Afghans Foundation
ICA	Inter Church Aid
IKK	Idara Khidmat-e-Khalq
IRC	International Rescue Committee
IIRO	Islamic International Relief Organization
ISRA	Islamic Relief Agency
ICD	Italian Cooperation for Development
KRCS	Kuwait Red Crescent Society
LDI	Lijnat al-Dawa al-Islamiah
MSF - UK	Medicins Sans Frontieres - United Kingdom
MSF - USA	Medicins Sans Frontieres - United States of America
MTA	Medical Training for Afghanistan (now AMIA)
-ve	negative
NGO	Non Governmental Organization
NWFP	North West Frontier Province
+ve	positive
PRCS	Pakistan Red Crescent Society
PTB	Pulmonary Tuberculosis
RHC	Rural Health Centre
SCF-UK	Save the Children Fund - United Kingdom
SCF-USA	Save the Children Fund - United States of America
SRCS	Saudi Red Crescent Society
TB	Tuberculosis
UAAR	Union Aid for Afghan Refugees
UMCA	United Medical Center for Afghans
UNHCR	United Nations High Commission for Refugees
UT	Under Treatment
WHO	World Health Organization

DEFINITIONS

Cured:	a sputum smear +ve patient who completed treatment and with 2 sputum smear examinations -ve taken at least at 2 months interval during the follow-up
Defaulted:	a patient who had not collected drugs for 2 or more weeks but less than 3 months
Died:	a patient who died from any cause during his treatment
Extra-Pulmonary TB:	a patient with only TB of organs other than the lungs and diagnosed by a TB specialist or below 18 years with cervical adenitis or with cervical adenitis and discharging sinus
Failure:	a sputum smear +ve patient who remained or became again smear +ve, 5 months or later after commencing treatment
Lost:	a patient who has not collected drugs for 3 or more consecutive months (during 1985-1988 lost was a patient not collecting drugs for 6 or more months)
New Case:	a patient who have never been treated for TB before
Relapse:	a patient who having successfully completed a TB treatment course, becomes sputum +ve again
Repatriated:	a patient who repatriated to Afghanistan and had his last follow-up sputum smear examination -ve and received the drugs supply to complete a maximum of 3 months of the remaining treatment course (introduced from 1992)
Sputum Smear examination:	the laboratory examination by Ziehl Neelsen of 3 sputum smears for TB suspects and of 3 sputum smears at the end of the 2nd, 4th, 6th, 8th and last month of treatment during follow-up
Sputum Positive Patient:	a patient who has at least 1 smear +ve examination
Sputum Negative Patient:	a patient who has at least 3 smear -ve examinations
Transferred In:	a patient transferred to the health facility from another health facility
Transferred Out:	a patient who has been transferred to another health facility
Treatment Completed:	a patient who completed treatment and with at least one sputum smear examination -ve during the follow-up

INTRODUCTION

The Italian Cooperation for Development (ICD) belongs to the Direzione Generale della Cooperazione allo Sviluppo, the Department of the Ministry of Foreign Affairs of Italy appointed for the provision of technical aid to other countries.

In 1984 the Programme started under the name of *"Tuberculosis Control Programme Among the Afghan Refugees in NWFP"*, within the formal agreement between the two Governments of Pakistan and Italy. Its main objective was to control the spread of TB among almost 2 millions of Afghan refugees present at that time in NWFP.

In 1985 the programme was operative in the whole province, cooperating with the Director General Health Services, the Project Director of Health for Afghan Refugees, the UNHCR and WHO offices, the NGOs working in the field. Guidelines manual, training of medical officers and microscopists, supply of anti-TB drugs, microscopes, diagnostic material, forms and registers, x-ray investigation and consultancy, supervision, surveillance system, were accomplished through Italian and local personnel. In 1985 a TB Reference Laboratory was established in Peshawar. In 1985 and 1989 the prevalence of the TB infection was studied among the Afghan refugees through two tuberculin surveys. Studies on initial and acquired resistance to anti-TB drugs started in 1989.

From 1992 the Programme was extended to the Pakistani health facilities in NWFP and renamed *"Tuberculosis Control Programme in NWFP"*. Same above activities were progressively introduced in a number of Pakistani facilities, starting from Peshawar Division. In 1993 a tuberculin survey was performed in the whole province.

During 1994 ICD supported TB control in the hospitals, BHUs and field laboratories for Afghan refugees and in a number of Pakistani hospitals and RHCs in NWFP by:

- supplying anti-TB drugs, microscopes, diagnostic material, stationary
- x-ray consultancy
- supervision
- training of medical officers
- training of microscopists (Reference Laboratory)
- sputum smear cross-checking (Reference Laboratory)
- minor servicing of microscopes (Reference Laboratory)
- culture/sensitivity testing for relapse and failure cases (Reference Laboratory)
- studying initial and acquired anti-TB drug resistance (Reference Laboratory)
- Data collection, processing, analysis and reporting

The present report tries to analyze the 1994 case finding and the 1993 case holding in the Afghan refugees and Pakistani health centers supported by the Programme, through the main TB indicators. The sources of information considered in this report are:

From health centers for Afghan refugees:

- Laboratory Monthly Report
- TB Monthly Report
- TB Register
- TB Register for Retreatment

From Pakistani health centers:

- TB Monthly Report
- TB Register
- TB Register for Retreatment

TB CONTROL IN THE HEALTH FACILITIES FOR AFGHAN REFUGEES

A total of 7 hospital reporting units, 129 other treatment reporting units and 36 laboratory reporting units recorded their performances in the TB Monthly Report during 1994 (in Table 1 one facility can be counted as 2 reporting units when handed over to other organization during the year).

Most of the reporting units were in Peshawar district, with an average of 11.5 monthly reports from each treatment reporting unit and 11.2 monthly reports from each diagnostic reporting unit.

The average less than 12 monthly reports per unit suggests the permanent closure of the unit or its seasonal closure or its handing-over to other organization. Therefore, most of the rearrangement of the treatment units for the Afghan refugees could be identified in Mansehra (average of only 5.7 monthly reports) where CHREP (Table 2) closed 4 BHUs after January. In Chitral the only diagnostic unit present for Afghan refugees was closed in February (average of 1 monthly report).

70 BHUs and 17 laboratories belonging to UNHCR prepared 727 monthly reports, the highest number among all organizations (Table 2).

TB case finding

The analysis considers the diagnostic and registration performances regarding the effort to find new TB cases for treatment during 1994.

More sputum smear examinations are performed per patient, more chances are there to find a sputum +ve patient. As a matter of fact, this correspondence is only theoretical, the number of sputum +ve patients depending on the following diagnostic steps: identification of the patients eligible for sputum examination, accuracy of the sputum collection, carefulness in smearing, staining, microscope reading, recording of results. The concurrence of errors in any of these steps could explain some contradictory results reported in following tables.

Only in Dir, Mansehra and Mardan districts the number of 3 sputum smear examinations required per patient was observed (Table 3).

Only the laboratories belonging to ARC, CHREP, KRCS, SCF-UK and UAAR achieved 3 sputum smear examinations per each PTB patient (Table 4). Notwithstanding, ARC and UAAR registered the lowest sputum positivity rate (0.9% and 1.9%) which match with the lowest positivity rate in Mardan (1.4%) and visible in Table 3. Therefore, in ARC and UAAR the low sputum positivity rates in the TB suspects investigated should be explained with the poor performance in any of the diagnostic steps mentioned above (e.g. mass screening sputum smear examination by ARC). Same could be said for UNHCR in Bannu, where all 132 patients investigated were sputum negative in spite of the high average of 2.9 smear examinations (Table 3).

The best performance was by the KRCS laboratory (28.1% positivity rate), which investigated only 32 patients, and by IIRO in North Waziristan.

The Laboratory Monthly Report includes all patients investigated, even the ones not referred by the treatment units. It always report the actual number of sputum smear positive patients found among the Afghan refugees.

Comparing the number of sputum +ve cases from the Laboratory Monthly Reports and the sum of "New" and "After Being Lost" cases registered at the treatment unit and reported through the TB Monthly Report, a positive or negative difference could be found. It can be explained by the predominance of patients who started the TB treatment but diagnosed elsewhere or by the drop-out of the patients from the laboratory to the treatment unit.

In Chitral one sputum +ve patient was found by the laboratory for refugees during its one month service during 1994, but 3 more sputum +ve patients were reported to have started treatment (Table 5). The same happened in Peshawar district, where at least 71 patients were investigated in other laboratories (private ?) and registered for treatment in the units for refugees.

In North Waziristan 223 patients were found sputum +ve by the laboratory, but only 100 were registered for treatment. This huge drop-out (-123) is mainly due to IIRO, which registered for treatment 114 patients less than the ones found sputum +ve in its laboratories in North Waziristan, Peshawar and Kohat (Table 6). IIRO is usually investigating quite a number of patients coming from Afghanistan and had recurrent shortages of anti-TB drugs during 1994.

An other drop-out can be reported among the PTB -ve and EPT cases of which, respectively 7% and 0.3% stopped the treatment after the field supervision and x-ray consultancy provided by ICD during 1994 (Table 7). The supervision was most effective in the BHUs belonging to UNHCR, where 55 (18.8%) PTB -ve had to stop their treatment (Table 8).

Finally, 1,159 PTB +ve (35.3%), 878 PTB -ve (26.7%) and 1,246 EP (38%) new cases were registered for treatment during 1994 in the whole NWFP (Table 9). The majority of cases were pulmonary ($35.3 + 26.7 = 62\%$) and sputum +ve. All cases had the highest registration in April with a negative trend to the end of the year.

The majority of new TB patients were reported from Peshawar district, where there was also the highest proportion of EP cases (Table 10). The highest proportion (58.5%) of new PTB +ve cases was in North Waziristan, the lowest in Bannu (0%).

Among the organizations, the highest proportion of PTB +ve patients was reported by AHSOA (64.7%) but specially by IIRO (55.2%). See Table 11.

Case holding of pulmonary TB sputum smear +ve new cases

1,245 patients were entered in the TB Registers during 1993. Of them 1,146 were "New Cases" (92%), 36 "Transferred In" (2.9%), 20 started treatment "After Being Lost" (1.6%) and 43 "Relapses" (3.5%) (Table 12).

The analysis which follows concerns the cohort group of 1,146 PTB +ve new patients who started the TB treatment during the period 1 January - 31 December 1993 and ended the treatment during 1994.

The large majority (99%) of the cohort seems to be represented by Afghan refugees (Table 13). Incomplete computer data entry might be suspected and 1-2% of Pakistani patients is the real picture felt by the ICD staff. Women were more than men with a male:female ratio of 1 male every 1.7 female PTB +ve new cases (Table 14). The most affected age group in women was 20-29 years (31.7%) while in men there is a first peak at 20-29 years (26.7%) and a second peak at 60-69 years (17%).

The sputum conversion rate after 2 months of treatment was higher in women (82.4%) than in men (75.6%), suggesting for a better compliance by the female TB patients during the intensive phase of treatment (Table 15). The sputum conversion rate after 2 months was highest in the 10-19 and 20-29 years age groups, respectively 83.5% and 83.6%, decreasing by the increasing of the age and with the total average of 79.8% (Table 16). It was highest in Haripur (97.2%) (Table 17) and by SCF-USA (96.3%) (Table 18).

Out of 1,146 new patients of the 1993 cohort, 62.7% was "Cured" (see definitions) and 2.9% had "Treatment Completed" (Table 19). 15.7% patients were "Lost", 1.7% "Failures", 1.8% "Died" and respectively 9.9% and 5.2% were "Transferred Out" and "Repatriated".

The cure rate followed same patterns of the sputum conversion rate, being higher in women (65.6% vs. 57.9%) and in the 20-29 years age group (Table 20). It was highest in Haripur (91.7%) (Table 21) and by SCF-USA (88.9%) (Table 22). All this confirms the prediction value of the sputum conversion rate for the final TB treatment outcome and highlights the paramount importance of the first intensive phase during the treatment of TB.

The lost rate had opposite pattern, being higher in men (17.2% vs. 14.8%) and increasing with the age. Alarming should be considered the high lost rate recorded by LDI (29.5%), in charge of the treatment of 112 sputum +ve patients during 1993.

Treatment failures were more frequent in men and in 60-69 years age group. Death rate increased with the age. More transferred out and repatriated were observed in men.

Finally, in Table 23 the main data and indicators are summarized from 1985 to 1994, 10 years of struggle for the control of TB among the Afghan refugees in NWFP. For the interpretation of this table the following events should be considered: USSR agrees the withdrawal from Afghanistan (1987 Geneva Accord); the definition of "Lost" patient changes from 6 months of interrupted drugs supply to 3 months (1989); the new Government settles in Kabul (1991); the definition of patient "Repatriated" is introduced (1992).

An acceptable number of sputum smear examinations per TB suspect and TB under treatment patient was achieved after the first 2 years of the Italian programme, growing slowly but constantly during the following years.

The registration rate of new TB cases (in our TB Monthly Reports new cases and relapses are considered combined) was always above 80% after 1986, reaching the top during the years 1990 and 1991. After 1991 and the reported repatriation of the Afghan refugees, the coverage of the Programme, i.e. the proportion of expected new PTB +ve cases who were found and registered, jumped over 180% and the registration rate rose over 110 per 100,000 population. This could be explained by: a lower estimation of the real Afghan refugee population; a catchment population extended to the displaced people in Afghanistan still strangled by the civil war (e.g. the Afghan patients attending Kacha Gari and Miranshah hospitals; a double registration of TB patients (if any, very limited); a dramatic worsening of the health welfare of the Afghan refugees which increased the Annual Risk of Infection (ARI) starting from 1992 (improbable). Moreover, the patients attending Pakistani health centers or private clinics might have decreased the registration rate at the health centers for Afghan refugees, which is not the case.

In case holding, the number of new PTB +ve cases (from the TB Registers) is usually lower than the number of new PTB +ve cases found during the same year (from the TB Monthly Reports). This could be explained by some drop-out of PTB +ve patients reported in the TB Monthly Reports but not registered in the TB Registers. An other important factor to consider is that from the TB Registers only the new PTB +ve cases were considered in 1985, 1986, 1987, 1988 and 1993 while from the TB Monthly Reports of each year new cases and relapses were always considered together. Only in 1989, 1990, 1991 and 1992 the difference was reversed, being considered all patients for the cohort analysis, i.e. new, transferred in, after being lost and relapses.

The success rate of the Programme (i.e. the cured and treatment completed cases divided by the total with exclusion of the died and repatriated cases), was more than 70% with exclusion of 1989 and 1992.

In 1988 and 1989 the transferred out rate increased, having considered the under treatment patients going back to Afghanistan as transferred out to local available treatment facilities.

From 1989 the cured rate increased to the detriment of the treatment completion rate by the increasing of the sputum smear examinations per patient (from 2.3 to 2.4) and the consequent improving of the TB patients follow-up.

The lost rate increased from 1989, when lost patients were newly defined as not collecting drugs for the shorter period of 3 months. In 1992 the lost rate jumped to more than 20% during the huge flow of refugees between Pakistan and Afghanistan.

Anti-TB drug resistance

Under the anti-TB drug resistance surveillance a systematic, consecutive sampling survey was performed during 1994 on the first 100 TB patients known for previous TB treatment and referred to the TB Reference Laboratory run by ICD in Peshawar. In spite of some selection biases, this survey could give us a feel of the acquired resistance among the Afghan refugees in NWFP.

Out of 102 cases examined for acquired resistance, 8.8% showed resistance to 1 drug, 12.7% to 2, 3 and 4 drugs, 20.6% to 5 drugs and 8.8% to all 6 anti-TB drugs used by the Italian Programme (Table 24). The highest acquired resistance rate was to pyrazinamide (53.9%) while the lowest (36.3%) was to Thiacetazone (Table 25). The acquired resistance to rifampicin was 49%.

TB CONTROL IN THE PAKISTANI HEALTH FACILITIES

A total of 40 reporting units (at the same time diagnostic and treatment units) recorded their performances in the TB Monthly Report during 1994. Most of them were "other" than teaching hospitals of secondary referral level (18), i.e. district, agency, tehsil, civil, etc. hospitals (Table 26). The total monthly reports were 338 with an average less than 12 per unit for other hospitals, TB clinics and RHCs, some of which were newly enrolled in the Programme or dropped out during the year.

TB case finding

The total average of sputum smear examinations was 1.3 per patient, much less than the 2.5 average gained in the health centers for Afghan refugees (Table 27). Being each Pakistani center provided of diagnostic facilities, the laboratory performances were recorded in the TB Monthly Report which includes separate spaces for the recording of sputum smear examinations for TB suspects and TB under treatment patients. More than half of the patients were seen at the TB clinics which performed the lowest number of sputum smear examinations per TB suspect (1.1) and per TB under treatment patient (1).

The highest sputum smear examination positivity rate (36.3%) was reported by TB Association (Table 28). Having performed a poor number of sputum examinations per patient, this positivity rate should be explained with the selection of patients for the laboratory investigation by the cost/effectiveness unbalanced x-ray investigation. Same practice could be the cause of the quite high smear examination positivity rate reported by the teaching hospitals, TB clinics and other hospitals.

In the consolidated TB Monthly Reports, comparing the number of sputum smear +ve patients recorded by the laboratory with the sum of the "New" and "After Being Lost" cases registered for treatment, a positive or negative difference could be seen (Table 29). The patients sputum +ve who did not started treatment at the teaching hospitals, TB clinics and TB Association ($46 + 22 + 5 = 73$ patients) were less than the ones who started treatment at the other hospitals and RHCs ($43 + 9 = 52$). This results in 21 sputum +ve patients who, we can suppose, decided to not start treatment or to get treatment from private physicians.

Among the treatments started during the year for PTB -ve cases, only 6 of them were stopped after specialist consultancy (Table 30).

Finally, 1,651 PTB +ve (31.8%), 2,268 PTB -ve (43.7%) and 1,267 EP (24.4%) new cases were registered for treatment during 1994 by the Pakistani health facilities

supported by the Italian programme (Table 31). The majority of cases were pulmonary (75.5%), but with the prevalence of sputum -ve cases.

The total 5,186 TB cases registered in the Pakistani health centers were almost 60% more than the 3,283 total TB cases registered in the health centers for Afghan refugees during 1994.

The total PTB cases had the highest registration in April and the lowest in February (Table 31). This figure is not affected by the change in number of the reporting units each month, being enrolled only one new RHC in April and dropped out by the Programme during the year only those facilities who were not registering new TB cases since several months.

The majority of new TB patients were reported by the TB clinics, but the highest proportion of PTB +ve cases (53.5%) was gained by the TB Association (Table 32).

Case holding of pulmonary TB sputum smear +ve new cases

1,320 patients were entered in the TB Registers during 1993. Of them 1,189 were "New Cases" (90.1%), 16 "Transferred In" (1.2%), 3 started treatment "After Being Lost" (0.2%) and 112 "Relapses" (8.5%) (Table 33).

The analysis which follows concerns the cohort group of 1,189 PTB +ve new patients who started the TB treatment during the period 1 January - 31 December 1993 and ended the treatment during 1994.

The large majority (99.9%) of the cohort seems to be represented by Pakistani nationals (Table 34). In reality, main referral centers declare the incomplete registration of nationality and that Afghan refugees range from 10% to 30% of their total attendances.

Women were slightly more than men with a male:female ratio of 1 male every 1.1 female PTB +ve new cases (Table 35). Most of patients were in the most productive age group of 20-29 years in both women (29.1%) and men (29%).

The sputum conversion rate after 2 months of treatment (Table 36) was higher in women (66.5%) than in men (54.7%), confirming the better compliance by the female TB patients during the intensive phase of treatment already seen among the Afghan refugees. The sputum conversion rate after 2 months was highest in the 10-19 and 20-29 years age groups, respectively 66% and 65.5%, decreasing by the increasing of the age and with the low total average of 60.9% (Table 37). It was highest in the TB Association (71.5%) (Table 38) and extremely low in the RHCs (16.7%).

Out of 1,189 new patients of the 1993 cohort, only 31.5% was "Cured" (see definitions) and 23.3% had "Treatment Completed" (Table 39). 38.9% patients were "Lost", 2.3% "Failures", 0.3% "Died" and 3.7% "Transferred Out".

The cure rate followed same patterns of the sputum conversion rate, being higher in women (36.6% vs. 25.9%) and in the 10-19 years age group (Table 40). It was

highest in the TB Association (50.4%), low in the TB clinics (31.9%) and very low in the specialized and other hospitals (22.7% and 22%). See Table 41.

The lost rate had opposite pattern, being higher in men (46.2% vs. 32.3%) and increasing with the age. Alarming should be considered the high lost rate recorded in the TB clinics (33.6%) and specialized hospitals (43.2%), respectively in charge of the treatment of 479 and 352 sputum +ve patients during 1993.

Finally, in Table 42 the main data and indicators are summarized for 1993 to 1994, the first two years of extension of the Italian TB control programme to the Pakistani health centers.

The number of sputum smear examinations per TB suspect patient lasted very low in average (1.2 - 1.3).

The ARI in the Pakistani nationals (1.69%) is much higher than the one in the Afghan refugees (1.06%) calculated for the same year 1994. This means that among the Pakistani nationals the expected incidence of new PTB sputum +ve cases was 93/100,000, i.e. much higher than the 58.3/100,000 among the Afghan refugees.

In 1994 there was not a clear catchment area demarcation, therefore the registration rate could not be considered for analysis.

In case holding, the success rate of the Programme, i.e. the cured and treatment completed cases divided by the total with exclusion of the died cases, was 55%, which is low. At the same time 38.9% of patients were lost and foredoomed to increase the anti-TB drug resistance within the community.

Better results might be expected in 1994 and specially in 1995, the year during which, following the newly developed national guidelines for TB control in Pakistan, new strategies and activities were introduced in the 2 pilot areas of NWFP: Peshawar walled city and Tangi tehsil.

Case holding of pulmonary TB retreatments

39 patients were entered in the TB Registers for retreatment during 1993 (Table 43).

The sputum conversion rate at the end of the 3/4 months intensive phase of treatment was lowest in the third referral level teaching/specialized hospitals (33.3%).

Out of 39 retreatment cases of the 1993 cohort, 10 were "Cured", 3 had "Treatment Completed", i.e. without proper sputum smear examination follow-up, 8 "Lost", 18 "Failures", i.e. chronic TB patients (Table 44). Cured patients are lower and lost and failures are higher in women.

No conclusions can be done about the outcome by age group (Table 45), being only 39 the retreatment cases.

While sputum conversion rate after 3/4 months of treatment was best in TB Association, the cure rate was highest in TB clinics (Table 46). Again, these

contradictory results are due to the low number of retreatment cases more than the poor performance of TB Association, which already showed in this report good sputum examinations and case holding.

Anti-TB drug resistance

The anti-TB drug resistance surveillance among the Pakistani nationals was continued during 1994 by a systematic, consecutive sampling survey investigating the TB patients referred to the TB Reference Laboratory for initial and acquired resistance study.

Only 29 cases were examined for initial resistance (Table 47, Table 48 and Table 49).

Out of 268 cases examined for acquired resistance, 7.1% showed resistance to 1 drug, 11.9% to 2 and 3 drugs, 14.6% to 4 drugs, 14.9% to 5 drugs and 11.2% to all 6 anti-TB drugs used by the Italian Programme (Table 47). The highest acquired resistance rate was to isoniazid (56.7%) while the lowest (20.5%) was to Thiacetazone (Table 48). The acquired resistance to rifampicin was 47%.

Table 1: TB Control Programme in the health centres for Afghan Refugees:
monthly data collection by district and referral level; NWFP, 1994.

District	Hospitals		Other Treatment Units		TOTAL		Laboratories	
	Reporting Units No.	Monthly Reports No.	Reporting Units No.	Monthly Reports No.	Reporting Units No.	Monthly Reports Total No.	Reporting Units No.	Monthly Reports Total No.
Chitral			2	21	2	21	1	1
Dir			5	57	5	57	1	12
Mansehra			7	40	7	40	1	12
Haripur			9	102	9	102	2	24
Mardan			10	120	10	120	6	72
Peshawar	3	36	31	354	34	390	11	123
Kohat			17	204	17	204	4	48
Bannu			5	48	5	48	1	12
D.I. Khan			7	63	7	63	2	20
Bajaur			8	87	8	87	1	12
Kurram	1	12	12	135	13	147	3	36
North Waziristan	2	24	9	91	11	115	2	24
South Waziristan	1	2	7	46	8	48	1	12
TOTAL	7	74	129	1,368	136	1,442	36	408
								11.3

Sources: TB Monthly Reports and Laboratory Monthly Reports

Table 2: TB Control Programme in the health centres for Afghan Refugees:
monthly data collection by organization and referral level; NWFP, 1994.

Organization	Hospitals		Other Treatment Units				TOTAL			Laboratories		
	Reporting Units No.	Monthly Reports No.	Reporting Units No.	Monthly Reports No.	Reporting Units No.	Monthly Reports No.	Reporting Units No.	Monthly Reports No.	Average per Unit	Reporting Units No.	Monthly Reports Total No.	Average per Unit
AG	1	12			1	12	1	12	12.0			
AHSAO			1	12			1	12	12.0			
AMA					0	0						
ANH					0	0						
ARC / FPHS			3	36			3	36	12.0	3	36	12.0
ASC					0	0						
CARP					0	0						
CHREP / CWS			7	40			7	40	5.7	1	12	12.0
DCR					0	0						
GAC					0	0						
HAF			2	24			2	24	12.0	1	12	12.0
ICA					0	0						
IKK					0	0						
IRC			12	144			12	144	12.0	1	12	12.0
IIRO,	3	36	1	12			4	48	12.0	3	36	12.0
ISRA					0	0						
KRCS			3	36			3	36	12.0	1	12	12.0
MSF					0	0						
LDI	2	14	1	12			3	26	8.7	2	24	12.0
MTA / AMIA					0	0						
PRCS			1	10			1	10	10.0			
SCF-UK			1	3			1	3	3.0	1	3	3.0
SCF-USA			5	60			5	60	12.0	1	12	12.0
SRCS	1	12	7	84			8	96	12.0	3	36	12.0
UAAR			15	168			15	168	11.2	2	24	12.0
UMCA												
UNHCR			70	727			70	727	10.4	17	189	11.1
TOTAL	7	74	129	1,368	136	1,442	10.6			36	408	11.3

Sources: TB Monthly Reports and Laboratory Monthly Reports

Table 3: Pulmonary TB Case finding in the health centres for Afghan Refugees: sputum smear examination by district and result; NWFP, 1994.

District	TB Suspect Patients				TB Under Treatment (UT) Patients				Total Patients Investigated	
	Sputum +ve	Others	Total Suspects Investigated	Sputum +ve	Sputum -ve	Total UT Investigated	Total UT %	Total Patients	Sputum Smear Examinations	No. No./Patient
	No. %	No. %	No. %							
Chitral	1 100.0	0 0.0	1 100.0	0 0.0	0 0.0	0 0.0	0.0	1	2	2.0
Dir	2 4.8	40 95.2	42 100.0	1 11.1	8 88.9	9 100.0	100.0	51	153	3.0
Mansehra	26 12.3	186 87.7	212 100.0	17 15.9	90 84.1	107 100.0	100.0	319	957	3.0
Haripur	55 3.8	1,395 96.2	1,450 100.0	34 13.2	223 86.8	257 100.0	100.0	1,707	4,741	2.8
Mardan	25 1.4	1,703 98.6	1,728 100.0	2 2.0	100 98.0	102 100.0	100.0	1,830	5,465	3.0
Peshawar	687 6.2	10,348 93.8	11,035 100.0	472 13.1	3,134 86.9	3,606 100.0	100.0	14,641	35,206	2.4
Kohat	91 5.6	1,533 94.4	1,624 100.0	22 7.2	285 92.8	307 100.0	100.0	1,931	5,323	2.8
Bannu	0 0.0	132 100.0	132 100.0	1 2.1	46 97.9	47 100.0	100.0	179	524	2.9
D.I. Khan	12 7.8	142 92.2	154 100.0	3 6.5	43 93.5	46 100.0	100.0	200	515	2.6
Bajaur	18 5.8	295 94.2	313 100.0	1 1.7	59 98.3	60 100.0	100.0	373	961	2.6
Kurram	102 11.3	798 88.7	900 100.0	88 17.8	407 82.2	495 100.0	100.0	1,395	3,418	2.5
North Waziristan	223 13.5	1,432 86.5	1,655 100.0	44 10.8	364 89.2	408 100.0	100.0	2,063	5,517	2.7
South Waziristan	4 5.5	69 94.5	73 100.0	1 6.7	14 93.3	15 100.0	100.0	88	201	2.3
TOTAL	1,246 6.4	18,073 93.6	19,319 100.0	686 12.6	4,773 87.4	5,459 100.0	100.0	24,778	62,983	2.5

Source: Laboratory Monthly Reports

Note: 3 sputum smear examinations were required for both TB Suspects and TB Under Treatment patients

Table 4: Pulmonary TB Case finding in the health centres for Afghan Refugees: sputum smear examination performance by organization and result; NWFP, 1994.

Organization	TB Suspect Patients				TB Under Treatment (UT) Patients				Total Patients Investigated	
	Sputum +ve		Others		Sputum +ve		Sputum -ve		Total Patients	Sputum Smear Examinations
	No.	%	No.	%	No.	%	No.	%		
AG										
AHSAO										
AMA										
ANH										
ARC / FPHS	12	0.9	1,252	99.1	2	2.6	74	97.4	1,340	3,996 3.0
ASC										
CARP										
CHREP / CWS	26	12.3	186	87.7	17	15.9	90	84.1	319	957 3.0
DCR										
GAC										
HAF	4	3.5	110	96.5	3	27.3	8	72.7	125	343 2.7
ICA										
IKK										
IRC	66	4.7	1,334	95.3	17	7.1	223	92.9	1,640	4,522 2.8
IIRO	231	19.0	984	81.0	49	11.7	370	88.3	1,634	4,533 2.8
ISRA										
KRCS	9	28.1	23	71.9	0	0.0	6	100.0	38	114 3.0
MSF										
LDI	70	10.7	586	89.3	82	19.6	336	80.4	1,074	2,423 2.3
MTA / AMIA										
PRCS										
SCF-UK	1	5.0	19	95.0	1	100.0	0	0.0	21	63 3.0
SCF-USA	40	3.6	1,075	96.4	32	17.9	147	82.1	1,294	3,507 2.7
SRCS	597	6.3	8,836	93.7	436	12.6	3,026	87.4	12,895	30,551 2.4
UAAR	14	1.9	707	98.1	2	4.4	43	95.6	766	2,290 3.0
UMCA										
UNHCR	176	5.6	2,961	94.4	45	9.1	450	90.9	3,632	9,684 2.7
TOTAL	1,246	6.4	18,073	93.6	686	12.6	4,773	87.4	24,778	62,983 2.5

Source: Laboratory Monthly Reports

Note: 3 sputum smear examinations were required for both TB suspects and TB Under Treatment patients

Table 5: Pulmonary TB Case finding in the health centres for Afghan Refugees: comparison of sputum smear +ve patients registered by the laboratories and by the treatment centres, by district; NWFP, 1994.

District	Sputum Smear +ve Patients Registered				
	At the Laboratory	At the Treatment Centre			Difference
		New Patients	After being Lost	Total	
Chitral	1	4	0	4	+3
Dir	2	6	0	6	+4
Mansehra	26	27	0	27	+1
Haripur	55	44	1	45	-10
Mardan	25	27	0	27	+2
Peshawar	687	744	14	758	+71
Kohat	91	88	0	88	-3
Bannu	0	0	0	0	0
D.I. Khan	12	10	0	10	-2
Bajaur	18	20	0	20	+2
Kurram	102	85	1	86	-16
North Waziristan	223	100	0	100	-123
South Waziristan	4	4	0	4	0
TOTAL	1,246	1,159	16	1,175	-71

Sources: Laboratory Monthly Reports and TBMonthly Reports
Note: a patient was considered "Lost" after 3 months of defaulting

Table 6: Pulmonary TB Case finding in the health centres for Afghan Refugees:
comparison of sputum smear +ve patients registered by the laboratories
and by the treatment centres, by organization; NWFP, 1994.

Organization	Sputum Smear +ve Patients Registered				
	At the Laboratory	At the Treatment Centre			Difference
		New Patients	After being Lost	Total	
AG		38	1	39	+39
AHSAO		11	0	11	+11
AMA				0	0
ANH				0	0
ARC / FPHS	12	13	0	13	+1
ASC				0	0
CARP				0	0
CHREP / CWS	26	27	0	27	+1
DCR				0	0
GAC				0	0
HAF	4	4	0	4	0
ICA				0	0
IKK				0	0
IRC	66	64	0	64	-2
IIRO	231	117	0	117	-114
ISRA				0	0
KRCS	9	8	0	8	-1
MSF				0	0
LDI	70	71	1	72	+2
MTA / AMIA				0	0
PRCS		0	0	0	0
SCF-UK	1	1	0	1	0
SCF-USA	40	26	1	27	-13
SRCS	597	626	13	639	+42
UAAR	14	30	0	30	+16
UMCA				0	0
UNHCR	176	123	0	123	-53
TOTAL	1,246	1,159	16	1,175	-71

Sources: Laboratory Monthly Reports and TB Monthly Reports

Note: a patient is considered "Lost" after 3 months of defaulting

Table 8: TB Case finding in the health centres for Afghan refugees:
new cases registration drop-out after supervision by the Programme, by organization and disease; NWFP, 1994.

Organization	Pulmonary TB Sputum Smear -ve Cases				Extra-Pulmonary TB Cases							
	Registered at Start No.	%	De-registered Afterwards No.	%	Remained Registered No.	%	Registered at Start No.	%	De-registered Afterwards No.	%	Remained Registered No.	%
AG	24	100.0	0	0.0	24	100.0	35	100.0	0	0.0	35	100.0
AHSAO	1	100.0	1	100.0	0	0.0	6	100.0	0	0.0	6	100.0
AMA												
ANH												
ARC / FPHS	0	0.0	0	0.0	0	0.0	12	100.0	0	0.0	12	100.0
ASC												
CARP												
CHREP / CWS	32	100.0	0	0.0	32	100.0	13	100.0	0	0.0	13	100.0
DCR												
GAC												
HAF	7	100.0	1	14.3	6	85.7	5	100.0	1	20.0	4	80.0
ICA												
IKK												
IRC	107	100.0	0	0.0	107	100.0	53	100.0	0	0.0	53	100.0
IIRO	46	100.0	2	4.3	44	95.7	51	100.0	0	0.0	51	100.0
ISRA												
KRCS	12	100.0	1	8.3	11	91.7	4	100.0	0	0.0	4	100.0
MSF												
LDI	43	100.0	5	11.6	38	88.4	88	100.0	1	1.1	87	98.9
MTA / AMIA												
PRCS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SCF-UK	1	100.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
SCF-USA	30	100.0	1	3.3	29	96.7	26	100.0	0	0.0	26	100.0
SRCS	317	100.0	0	0.0	317	100.0	796	100.0	0	0.0	796	100.0
UAAR	31	100.0	0	0.0	31	100.0	9	100.0	0	0.0	9	100.0
UMCA												
UNHCR	293	100.0	55	18.8	238	81.2	152	100.0	2	1.3	150	98.7
TOTAL	944	100.0	66	7.0	878	93.0	1,250	100.0	4	0.3	1,246	99.7

Source: TB Monthly Reports

Table 9: TB Case finding in the health centres for Afghan refugees:
new cases registered by month and disease; NWFP, 1994.

Month	Pulmonary TB				Extra-Pulmonary		TOTAL	
	Patients No.	+ve %	Patients -ve No.	%	No.	%	No.	%
January	96	34.2	83	29.5	102	36.3	281	100.0
February	86	33.7	85	33.3	84	32.9	255	100.0
March	109	38.5	68	24.0	106	37.5	283	100.0
April	140	34.4	91	22.4	176	43.2	407	100.0
May	98	31.5	63	20.3	150	48.2	311	100.0
June	122	42.2	64	22.1	103	35.6	289	100.0
July	101	34.2	81	27.5	113	38.3	295	100.0
August	96	33.7	71	24.9	118	41.4	285	100.0
September	76	34.9	77	35.3	65	29.8	218	100.0
October	62	29.4	72	34.1	77	36.5	211	100.0
November	96	38.4	66	26.4	88	35.2	250	100.0
December	77	38.9	57	28.8	64	32.3	198	100.0
TOTAL	1,159	35.3	878	26.7	1,246	38.0	3,283	100.0

Source: TB Monthly Reports

Table 10: TB Case finding in the health centres for Afghan refugees:
new cases registered by district and disease; NWFP, 1994.

District	Pulmonary TB				Extra-Pulmonary		TOTAL	
	Patients No.	+ve %	Patients -ve No.	%	No.	%	No.	%
Chitral	4	28.6	8	57.1	2	14.3	14	100.0
Dir	6	17.6	16	47.1	12	35.3	34	100.0
Mansehra	27	37.5	32	44.4	13	18.1	72	100.0
Haripur	44	29.9	56	38.1	47	32.0	147	100.0
Mardan	27	38.6	21	30.0	22	31.4	70	100.0
Peshawar	744	36.8	394	19.5	881	43.6	2,019	100.0
Kohat	88	26.5	157	47.3	87	26.2	332	100.0
Bannu	0	0.0	25	83.3	5	16.7	30	100.0
D.I. Khan	10	23.8	25	59.5	7	16.7	42	100.0
Bajaur	20	38.5	14	26.9	18	34.6	52	100.0
Kurram	85	32.2	70	26.5	109	41.3	264	100.0
North Waziristan	100	58.5	41	24.0	30	17.5	171	100.0
South Waziristan	4	11.1	19	52.8	13	36.1	36	100.0
TOTAL	1,159	35.3	878	26.7	1,246	38.0	3,283	100.0

Source: TB Monthly Reports

Table 11: TB Case finding in the health centres for Afghan Refugees:
new cases registered by organization and disease; NWFP, 1994.

Organization	Pulmonary TB				Extra-Pulmonary		TOTAL	
	Patients +ve		Patients -ve					
	No.	%	No.	%	No.	%	No.	%
AG	38	39.2	24	24.7	35	36.1	97	100.0
AHSAO	11	64.7	0	0.0	6	35.3	17	100.0
AMA	13	52.0	0	0.0	12	48.0	25	100.0
ANH								
ARC / FPHS								
ASC								
CARP								
CHREP / CWS	27	37.5	32	44.4	13	18.1	72	100.0
DCR								
GAC								
HAF	4	28.6	6	42.9	4	28.6	14	100.0
ICA								
IKK								
IRC	64	28.6	107	47.8	53	23.7	224	100.0
IIRO	117	55.2	44	20.8	51	24.1	212	100.0
ISRA								
KRCS	8	34.8	11	47.8	4	17.4	23	100.0
MSF								
LDI	71	36.2	38	19.4	87	44.4	196	100.0
MTA / AMIA								
PRCS								
SCF-UK	1	50.0	1	50.0	0	0.0	2	100.0
SCF-USA	26	32.1	29	35.8	26	32.1	81	100.0
SRCS	626	36.0	317	18.2	796	45.8	1,739	100.0
UAAR	30	42.9	31	44.3	9	12.9	70	100.0
UMCA								
UNHCR	123	24.1	238	46.6	150	29.4	511	100.0
TOTAL	1,159	35.3	878	26.7	1,246	38.0	3,283	100.0

Source: TB Monthly Reports

Table 12: TB Case holding in the health centres for Afghan Refugees: patient input by district and type of patient; NWFP, 1993.

District	New		Transferred In		Treatment After Being Lost		Relapse		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%
Chitral	5	62.5	3	37.5	0	0.0	0	0.0	8	100.0
Dir	9	81.8	1	9.1	0	0.0	1	9.1	11	100.0
Mansehra	30	100.0	0	0.0	0	0.0	0	0.0	30	100.0
Haripur	36	87.8	1	2.4	0	0.0	4	9.8	41	100.0
Mardan	8	80.0	1	10.0	0	0.0	1	10.0	10	100.0
Peshawar	767	92.6	21	2.5	15	1.8	25	3.0	828	100.0
Kohat	69	80.2	5	5.8	3	3.5	9	10.5	86	100.0
Bannu	8	80.0	2	20.0	0	0.0	0	0.0	10	100.0
D.I. Khan	9	100.0	0	0.0	0	0.0	0	0.0	9	100.0
Bajaur	22	91.7	2	8.3	0	0.0	0	0.0	24	100.0
Kurram	83	97.6	0	0.0	1	1.2	1	1.2	85	100.0
North Waziristan	99	97.1	0	0.0	1	1.0	2	2.0	102	100.0
South Waziristan	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
TOTAL	1,146	92.0	36	2.9	20	1.6	43	3.5	1,245	100.0

Source: TB Registers

Note: a patient was considered "After Being Lost" after 3 months of defaulting and with sputum smear positive

Table 13: TB Case holding in the health centres for Afghan Refugees: new sputum positive cases by district and nationality; NWFP, 1993.

District	Afghan Refugees		Pakistani Nationals		TOTAL	
	No.	%	No.	%	No.	%
Chitral	3	60.0	2	40.0	5	100.0
Dir	8	88.9	1	11.1	9	100.0
Mansehra	30	100.0	0	0.0	30	100.0
Haripur	36	100.0	0	0.0	36	100.0
Mardan	8	100.0	0	0.0	8	100.0
Peshawar	767	100.0	0	0.0	767	100.0
Kohat	69	100.0	0	0.0	69	100.0
Bannu	7	87.5	1	12.5	8	100.0
D.I. Khan	7	77.8	2	22.2	9	100.0
Bajaur	20	90.9	2	9.1	22	100.0
Kurram	81	97.6	2	2.4	83	100.0
North Waziristan	99	100.0	0	0.0	99	100.0
South Waziristan	1	100.0	0	0.0	1	100.0
TOTAL	1,136	99.1	10	0.9	1,146	100.0

Source: TB Registers

Table 14: TB Case holding in the health centres for Afghan Refugees:
new sputum smear positive cases by age and sex; NWFP, 1993.

Age Groups (Years)	Female (F)		Male (M)		TOTAL		
	No.	%	No.	%	No.	%	M:F
0 - 9	3	0.4	1	0.2	4	0.2	3.0
10 - 19	71	9.9	32	7.4	103	7.4	2.2
20 - 29	227	31.7	115	26.7	342	26.7	2.0
30 - 39	160	22.3	66	15.3	226	15.3	2.4
40 - 49	76	10.6	48	11.2	124	11.2	1.6
50 - 59	74	10.3	58	13.5	132	13.5	1.3
60 - 69	78	10.9	73	17.0	151	17.0	1.1
70 - 79	22	3.1	31	7.2	53	7.2	0.7
80 +	5	0.7	6	1.4	11	1.4	0.8
TOTAL	716	100.0	430	100.0	1,146	100.0	1.7

Source: TB Registers

Table 15: TB Case holding in the health centres for Afghan Refugees:
sputum conversion rate at the end of the 2nd month of treatment,
by sex; NWFP, 1993.

Sex	Pulmonary TB Patients			
	Sputum Smear + ve At Start Treatment		Sputum Smear -ve After 2 Months	
	No.	%	No.	%
Male	430	100.0	325	75.6
Female	716	100.0	590	82.4
TOTAL	1,146	100.0	915	79.8

Source: TB Registers

Table 16: TB Case holding in the health centres for Afghan Refugees: sputum conversion rate at the end of the 2nd month of treatment, by age; NWFP, 1993.

Age Group (Years)	Pulmonary TB Patients			
	Sputum Smear +ve		Sputum Smear -ve	
	No.	%	No.	%
0 - 9	4	100.0	3	75.0
10 - 19	103	100.0	86	83.5
20 - 29	342	100.0	286	83.6
30 - 39	226	100.0	182	80.5
40 - 49	124	100.0	93	75.0
50 - 59	132	100.0	105	79.5
60 - 69	151	100.0	116	76.8
70 - 79	53	100.0	37	69.8
80 +	11	100.0	7	63.6
TOTAL	1,146	100.0	915	79.8

Source: TB Registers

Table 17: TB Case holding in the health centres for Afghan Refugees: sputum conversion rate at the end of the 2nd month of treatment, by district; NWFP, 1993.

District	Pulmonary TB Patients			
	Sputum Smear +ve At Start Treatment		Sputum Smear -ve After 2 Months	
	No.	%	No.	%
Chitral	5	100.0	4	80.0
Dir	9	100.0	6	66.7
Mansehra	30	100.0	25	83.3
Haripur	36	100.0	35	97.2
Mardan	8	100.0	5	62.5
Peshawar	767	100.0	623	81.2
Kohat	69	100.0	47	68.1
Bannu	8	100.0	7	87.5
D.I. Khan	9	100.0	4	44.4
Bajaur	22	100.0	21	95.5
Kurram	83	100.0	65	78.3
North Waziristan	99	100.0	72	72.7
South Waziristan	1	100.0	1	100.0
TOTAL	1,146	100.0	915	79.8

Source: TB Registers

Table 18: TB Case holding in the health centres for Afghan Refugees:
sputum conversion rate at the end of the 2nd month of treatment,
by organization; NWFP, 1993.

Organization	Pulmonary TB Patients			
	Sputum Smear +ve At Start Treatment		Sputum Smear -ve After 2 Months	
	No.	%	No.	%
AG				
AHSAO	20	100.0	15	75.0
AMA				
ANH				
ARC / FPHS	6	100.0	4	66.7
ASC				
CARP				
CHREP / CWS	30	100.0	25	83.3
DCR				
GAC				
HAF				
ICA				
IKK				
IRC	48	100.0	31	64.6
IIRO	98	100.0	73	74.5
ISRA	6	100.0	6	100.0
KRCS	4	100.0	1	25.0
MSF				
LDI	112	100.0	87	77.7
MTA / AMIA				
PRCS				
SCF-UK	2	100.0	1	50.0
SCF-USA	27	100.0	26	96.3
SRCS	669	100.0	552	82.5
UAAR	19	100.0	15	78.9
UMCA				
UNHCR	105	100.0	79	75.2
TOTAL	1,146	100.0	915	79.8

Source: TB Registers

Table 19:) TB Case holding in the health centres for Afghan Refugees:
new sputum smear positive cases by outcome and sex; NWFP, 1993.

Outcome	Female (F)		Male (M)		TOTAL	
	No.	%	No.	%	No.	%
Cured	470	65.6	249	57.9	719	62.7
Treat. Completed	26	3.6	7	1.6	33	2.9
Lost	106	14.8	74	17.2	180	15.7
Failures	8	1.1	12	2.8	20	1.7
Died	14	2.0	7	1.6	21	1.8
Transferred Out	63	8.8	50	11.6	113	9.9
Repatriated	29	4.1	31	7.2	60	5.2
TOTAL	716	100.0	430	100.0	1,146	100.0

Source: TB Registers

Table 20: TB Case holding in the health centres for Afghan Refugees:
new sputum smear positive cases by age and outcome; NWFP, 1993.

Age Groups (Years)	Cured		Treatment Completed		Lost		Failures		Died		Transferred Out		Repatriated		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 9	3	75.0	0	0.0	1	25.0	0	0.0	0	0.0	0	0.0	0	0.0	4	100.0
10 - 19	64	62.1	4	3.9	13	12.6	2	1.9	1	1.0	14	13.6	5	4.9	103	100.0
20 - 29	224	65.5	3	0.9	47	13.7	2	0.6	5	1.5	41	12.0	20	5.8	342	100.0
30 - 39	144	63.7	11	4.9	34	15.0	5	2.2	2	0.9	17	7.5	13	5.8	226	100.0
40 - 49	75	60.5	6	4.8	22	17.7	2	1.6	1	0.8	12	9.7	6	4.8	124	100.0
50 - 59	85	64.4	2	1.5	19	14.4	3	2.3	1	0.8	16	12.1	6	4.5	132	100.0
60 - 69	89	58.9	6	4.0	32	21.2	6	4.0	4	2.6	7	4.6	7	4.6	151	100.0
70 - 79	29	54.7	0	0.0	10	18.9	0	0.0	6	11.3	5	9.4	3	5.7	53	100.0
80 +	6	54.5	1	9.1	2	18.2	0	0.0	1	9.1	1	9.1	0	0.0	11	100.0
TOTAL	719	62.7	33	2.9	180	15.7	20	1.7	21	1.8	113	9.9	60	5.2	1,146	100.0

Source: TB Registers

Table 21: TB Case holding in the health centres for Afghan Refugees:
new sputum smear positive cases by district and outcome; NWFP, 1993.

District	Cured		Treatment Completed		Lost		Failures		Died		Transferred Out		Repatriated		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Chitral	2	40.0	0	0.0	3	60.0	0	0.0	0	0.0	0	0.0	0	0.0	5	100.0
Dir	19	63.3	1	3.3	1	3.3	0	0.0	2	6.7	2	6.7	5	16.7	30	100.0
Mansehra	2	22.2	3	33.3	0	0.0	1	11.1	1	11.1	2	22.2	0	0.0	9	100.0
Haripur	33	91.7	0	0.0	1	2.8	0	0.0	0	0.0	2	5.6	0	0.0	36	100.0
Mardan	5	62.5	0	0.0	0	0.0	1	12.5	1	12.5	1	12.5	0	0.0	8	100.0
Peshawar	499	65.1	12	1.6	107	14.0	6	0.8	5	0.7	83	10.8	55	7.2	767	100.0
Kohat	37	53.6	5	7.2	17	24.6	1	1.4	3	4.3	6	8.7	0	0.0	69	100.0
Bannu	2	25.0	3	37.5	1	12.5	0	0.0	1	12.5	1	12.5	0	0.0	8	100.0
D.I. Khan	4	44.4	0	0.0	1	11.1	1	11.1	1	11.1	2	22.2	0	0.0	9	100.0
Bajaur	11	50.0	2	9.1	4	18.2	0	0.0	1	4.5	4	18.2	0	0.0	22	100.0
Kurram	39	47.0	5	6.0	22	26.5	5	6.0	2	2.4	10	12.0	0	0.0	83	100.0
North Waziristan	65	65.7	2	2.0	23	23.2	5	5.1	4	4.0	0	0.0	0	0.0	99	100.0
South Waziristan	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0
TOTAL	719	62.7	33	2.9	180	15.7	20	1.7	21	1.8	113	9.9	60	5.2	1,146	100.0

Source: TB Registers

Table 22: TB case holding in the health centres for Afghan Refugees:
new sputum smear positive cases by organization and outcome; NWFP, 1993.

Organization	Cured		Treatment Completed		Lost		Failures		Died		Transferred Out		Repatriated		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
AG	10	50.0	4	20.0	5	25.0	1	5.0	0	0.0	0	0.0	0	0.0	20	100.0
AHSAO																
AMA																
ANH																
ARC / FPHS	4	66.7	0	0.0	0	0.0	1	16.7	1	16.7	0	0.0	0	0.0	6	100.0
ASC																
CARP																
CHREP / CWS	19	63.3	1	3.3	1	3.3	0	0.0	2	6.7	2	6.7	5	16.7	30	100.0
DCR																
GAC																
HAF																
ICA																
IKK																
IRC	25	52.1	4	8.3	12	25.0	1	2.1	3	6.3	3	6.3	0	0.0	48	100.0
IRO	64	65.3	3	3.1	22	22.4	5	5.1	4	4.1	0	0.0	0	0.0	98	100.0
ISRA	2	33.3	2	33.3	1	16.7	0	0.0	0	0.0	1	16.7	0	0.0	6	100.0
KRCS	0	0.0	2	50.0	2	50.0	0	0.0	0	0.0	0	0.0	0	0.0	4	100.0
MSF																
LDI	56	50.0	3	2.7	33	29.5	4	3.6	1	0.9	9	8.0	6	5.4	112	100.0
MTA / AMIA																
PRCS																
SCF-UK	1	50.0	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0	2	100.0
SCF-USA	24	88.9	0	0.0	1	3.7	0	0.0	0	0.0	2	7.4	0	0.0	27	100.0
SRCS	448	67.0	3	0.4	79	11.8	5	0.7	3	0.4	82	12.3	49	7.3	669	100.0
UAAR	12	63.2	0	0.0	6	31.6	0	0.0	0	0.0	1	5.3	0	0.0	19	100.0
UMCA																
UNHCR	54	51.4	11	10.5	18	17.1	3	2.9	6	5.7	13	12.4	0	0.0	105	100.0
TOTAL	719	62.7	33	2.9	180	15.7	20	1.7	21	1.8	113	9.9	60	5.2	1,146	100.0

Source: TB Registers

Table 23: TB Control Programme among Afghan Refugees: sputum smear examination, case registration and case holding, by the main indicators and year; NWFP, 1985-94.

Statistics	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
	%	%	%	%	%	%	%	%	%	%
<u>Sputum Smear Exam.:</u>										
TB Patients Seen	19,980	33,314	36,274	37,370	41,463	44,746	46,442	32,890	27,611	24,778
Smears Examined	37,175	66,728	82,622	85,690	98,957	107,819	112,990	80,442	67,676	62,983
Smears per Patient	1.9	2.0	2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5
<u>Case Registration:</u>										
Catchment Pop.(x1000)	1,900	2,100	2,150	2,235	2,242	2,239	2,224	1,176	1,036	950
ARI	---	1.92	---	---	---	---	---	---	---	---
New PTB+ve Expected	2,163	2,221	2,112	2,039	1,900	1,762	1,626	798	653	556
New PTB+ve Registered	1,270	1,813	1,993	1,906	1,886	1,874	1,669	1,463	1,216	1,159
Registr. Rate (x100000)	67	86	93	85	84	84	75	124	117	122
New PTB+ve cases	1,270	1,813	1,993	1,906	1,886	1,874	1,669	1,463	1,216	1,159
New PT -ve cases	4,461	6,060	4,820	3,050	2,398	1,522	1,776	1,389	976	878
New EP cases	2,039	3,046	3,138	2,504	2,213	1,578	1,767	1,716	1,280	1,246
Total new TB cases	7,770	10,919	9,951	7,460	6,497	4,974	5,212	4,568	3,472	3,283
<u>New PTB+ve Holding:</u>										
Cured	270	464	602	870	1,024	1,189	1,059	842	719	62.7
Treatment Completed	560	765	689	371	220	125	170	82	33	2.9
Lost	187	325	362	179	274	326	262	305	180	15.7
Failures	87	78	60	44	97	82	68	51	20	1.7
Died	45	50	46	58	39	51	43	28	21	1.8
Transferred Out	25	21	78	246	242	122	149	90	113	9.9
Repatriated	0	0	0	0	0	0	0	81	60	5.2
Total New PTB+ve	1,174	1,703	1,837	1,768	1,896	1,895	1,751	1,479	1,146	100.0
Success Rate	---	74.3	72.1	72.6	67.0	71.3	72.0	67.4	---	70.6

Sources: Laboratory Monthly Reports, TB Monthly Reports and TB Registers
Notes: Annual Risk of Infection (ARI) estimated in 1985 and 1989 by tuberculin surveys; 7.12% is the ARI annual downtrend considered in this table
Populations are reported as estimated by UNHCR
Success Rate = (Cured + Treatment Completed) / (Total-Died-Repatriated) x 100

Table 24: Resistance to anti-TB drugs among Afghan Refugees:
results out of 102 tests for acquired resistance;
NWFP, Jan-Dec 1994.

Resistance to:	Drugs	Acquired Res. (102 tests)	
		No.	%
1 drug	H	4	3.9
	R	4	3.9
	S	1	1.0
	Total	9	8.8
2 drugs	H+Z	4	3.9
	H+T	1	1.0
	R+S	1	1.0
	R+Z	3	2.9
	S+Z	2	2.0
	E+Z	1	1.0
	Z+T	1	1.0
	Total	13	12.7
3 drugs	H+R+S	2	2.0
	H+R+T	1	1.0
	H+S+Z	3	2.9
	H+E+T	1	1.0
	R+S+Z	4	3.9
	R+E+T	1	1.0
	S+Z+T	1	1.0
	Total	13	12.7
4 drugs	H+R+S+Z	1	1.0
	H+R+E+Z	1	1.0
	H+S+E+Z	2	2.0
	H+S+E+T	1	1.0
	H+S+Z+T	4	3.9
	R+S+E+Z	2	2.0
	R+E+Z+T	1	1.0
	S+E+Z+T	1	1.0
	Total	13	12.7
5 drugs	H+R+S+E+Z	6	5.9
	H+R+S+E+T	2	2.0
	H+R+S+Z+T	6	5.9
	H+R+E+Z+T	3	2.9
	H+S+E+Z+T	1	1.0
	R+S+E+Z+T	3	2.9
	Total	21	20.6
6 drugs	H+R+S+E+Z+T	9	8.8
Main Total		78	76.5

Note: H = isoniazid; R = rifampicin; S = streptomycin;
E = ethambutol; Z = pyrazinamide; T = thiacetazone

Table 25: Resistance to individual anti-TB drugs
among Afghan refugees: results out of
102 tests for acquired resistance;
NWFP, Jan-Dec 1994.

Drug	Acquired Res. (102 tests) No.	%
H	52	51.0
R	50	49.0
S	52	51.0
E	35	34.3
Z	55	53.9
T	37	36.3

Note: H = isoniazid; R = rifampicin;
S = streptomycin; E = ethambutol;
Z = pyrazinamide; T = thiacetazone

Table 26: TB Control Programme in the Pakistani health centres:
monthly data collection by referral level; NWFP, 1994.

Referral Level	Reporting Units No.	Monthly Reports Total No.	Average per Unit
Teaching/Specialized Hospitals	3	36	12.0
Other Hospitals	18	132	7.3
TB Clinics	4	33	8.3
Rural Health Centres	13	113	8.7
Fauji Foundation	1	12	12.0
TB Association	1	12	12.0
TOTAL	40	338	8.5

Sources: TB Monthly Reports

Table 27: Pulmonary TB Case finding in the Pakistani health centres:
sputum smear examination by referral level; NWFP, 1994.

Referral Level	TB Suspect Patients			TB Under Treatment Patients			Total Patients Investigated	
	Patients No.	Sputum Smears No.	No./Patient	Patients No.	Sputum Smears No.	No./Patient	Patients No.	Sputum Smears No./Patient
Teaching/Specialized Hospitals	2,582	3,471	1.3	462	594	1.3	3,044	4,065
Other Hospitals	1,469	2,731	1.9	339	912	2.7	1,808	3,643
TB Clinics	5,618	6,372	1.1	2,567	2,575	1.0	8,185	8,947
Rural Health Centres	257	470	1.8	18	20	1.1	275	490
Fauji Foundation	81	151	1.9	5	5	1.0	86	156
TB Association	562	653	1.2	112	112	1.0	674	765
TOTAL	10,569	13,848	1.3	3,503	4,218	1.2	14,072	18,066
								1.3

Source: TB Monthly Reports

Table 28: Pulmonary TB Case finding in the Pakistani health centres:
sputum smear examination by referral level and result; NWFP, 1994.

Referral Level	TB Suspect Patients				TB Under Treatment Patients							
	Sputum + ve No.	%	Others No.	%	Total Investigated No.	%	Sputum + ve No.	%	Sputum -ve No.	%	Total Investigated No.	%
Teaching/Specialized Hospitals	456	17.7	2,126	82.3	2,582	100.0	68	14.7	394	85.3	462	100.0
Other Hospitals	190	12.9	1,279	87.1	1,469	100.0	57	16.8	282	83.2	339	100.0
TB Clinics	798	14.2	4,820	85.8	5,618	100.0	485	18.9	2,082	81.1	2,567	100.0
Rural Health Centres	22	8.6	235	91.4	257	100.0	1	5.6	17	94.4	18	100.0
Fauji Foundation	5	6.2	76	93.8	81	100.0	2	40.0	3	60.0	5	100.0
TB Association	204	36.3	358	63.7	562	100.0	21	18.8	91	81.3	112	100.0
TOTAL	1,675	15.8	8,894	84.2	10,569	100.0	634	18.1	2,869	81.9	3,503	100.0

Source: TB Monthly Reports

Table 29: Pulmonary TB Case finding in the Pakistani health centres:
comparison of sputum smear +ve patients registered by the laboratories
and for treatment, by referral level; NWFP, 1994.

Referral Level	Sputum Smear +ve Patients Registered				
	At the Laboratory	At the Treatment Centre			Difference
		New Patients	After being Lost	Total	
Teaching/Specialized Hospitals	456	409	1	410	-46
Other Hospitals	190	233	0	233	+43
TB Clinics	798	775	1	776	-22
Rural Health Centres	22	31	0	31	+9
Fauji Foundation	5	5	0	5	0
TB Association	204	198	1	199	-5
Mission Hospitals				0	0
TOTAL	1,675	1,651	3	1,654	-21

Sources: TB Monthly Reports

Note: a patient was considered "Lost" after 3 months of defaulting

Table 30: TB Case finding in the Pakistani health centres:
new cases registration drop-out after supervision by the Programme, by referral level and disease; NWFP, 1994.

Referral Level	Pulmonary TB Sputum Smear -ve Cases				Extra-Pulmonary TB Cases			
	Registered at Start No.	%	De-registered Afterwards No.	%	Registered at Start No.	%	De-registered Afterwards No.	%
Teaching/Specialized Hospitals	598	100.0	2	0.3	596	99.7	0	0.0
Other Hospitals	573	100.0	4	0.7	569	99.3	0	0.0
TB Clinics	870	100.0	0	0.0	870	100.0	0	0.0
Rural Health Centres	78	100.0	0	0.0	78	100.0	0	0.0
Fauji Foundation	44	100.0	0	0.0	44	100.0	0	0.0
TB Association	111	100.0	0	0.0	111	100.0	0	0.0
TOTAL	2,274	100.0	6	0.3	2,268	99.7	0	0.0
					1,267	100.0	0	0.0
							1,267	100.0

Source: TB Monthly Reports

Table 31: TB Case finding in the Pakistani health centres:
new cases registered by month and disease; NWFP, 1994.

Month	Pulmonary TB				Extra-Pulmonary		TOTAL	
	Patients +ve No.	%	Patients -ve No.	%	No.	%	No.	%
January	112	32.8	141	41.3	88	25.8	341	100.0
February	85	27.0	146	46.3	84	26.7	315	100.0
March	123	35.4	141	40.6	83	23.9	347	100.0
April	160	29.7	247	45.9	131	24.3	538	100.0
May	133	28.9	219	47.5	109	23.6	461	100.0
June	139	28.8	207	42.9	136	28.2	482	100.0
July	187	37.2	201	40.0	115	22.9	503	100.0
August	154	33.8	188	41.3	113	24.8	455	100.0
September	131	30.6	182	42.5	115	26.9	428	100.0
October	167	33.4	235	47.0	98	19.6	500	100.0
November	136	32.8	184	44.3	95	22.9	415	100.0
December	124	30.9	177	44.1	100	24.9	401	100.0
TOTAL	1,651	31.8	2,268	43.7	1,267	24.4	5,186	100.0

Source: TB Monthly Reports

Table 32: TB Case finding in the Pakistani health centres:
new cases registered by referral level and disease; NWFP, 1994.

Referral Level	Pulmonary TB				Extra-Pulmonary		TOTAL	
	Patients +ve No.	%	Patients -ve No.	%	No.	%	No.	%
Teaching/Specialized Hospitals	409	30.6	596	44.5	333	24.9	1,338	100.0
Other Hospitals	233	23.4	569	57.2	192	19.3	994	100.0
TB Clinics	775	34.1	870	38.2	631	27.7	2,276	100.0
Rural Health Centres	31	22.0	78	55.3	32	22.7	141	100.0
Fauji Foundation	5	7.5	44	65.7	18	26.9	67	100.0
TB Association	198	53.5	111	30.0	61	16.5	370	100.0
TOTAL	1,651	31.8	2,268	43.7	1,267	24.4	5,186	100.0

Source: TB Monthly Reports

Table 33: TB Case holding in the Pakistani health centres:
patient input by referral level and type of patient; NWFP, 1993.

Referral Level	New		Transferred In		Treatment After Being Lost		Relapse		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%
Teaching/Specialized Hospitals	352	89.3	5	1.3	0	0.0	37	9.4	394	100.0
Other Hospitals	109	87.9	7	5.6	1	0.8	7	5.6	124	100.0
TB Clinics	479	87.4	3	0.5	1	0.2	65	11.9	548	100.0
Rural Health Centres	18	94.7	1	5.3	0	0.0	0	0.0	19	100.0
Fauji Foundation	3	100.0	0	0.0	0	0.0	0	0.0	3	100.0
TB Association	228	98.3	0	0.0	1	0.4	3	1.3	232	100.0
TOTAL	1,189	90.1	16	1.2	3	0.2	112	8.5	1,320	100.0

Source: TB Registers

Note: a patient was considered "After Being Lost" after 3 months of defaulting and with sputum smear positive

Table 34: TB Case holding in the Pakistani health centres:
new sputum smear positive cases by referral level and nationality; NWFP, 1993.

Referral Level	Pakistani Nationals		Afghan Refugees		TOTAL	
	No.	%	No.	%	No.	%
Teaching/Specialized Hospitals	352	100.0	0	0.0	352	100.0
Other Hospitals	109	100.0	0	0.0	109	100.0
TB Clinics	479	100.0	0	0.0	479	100.0
Rural Health Centres	18	100.0	0	0.0	18	100.0
Fauji Foundation	3	100.0	0	0.0	3	100.0
TB Association	227	99.6	1	0.4	228	100.0
TOTAL	1,188	99.9	1	0.1	1,189	100.0

Source: TB Registers

Table 35: TB Case holding in the Pakistani health centres:
new sputum smear positive cases by age and sex; NWFP, 1993.

Age Groups (Years)	Female (F)		Male (M)		TOTAL	
	No.	%	No.	%	No.	%
0 - 9	5	0.8	0	0.0	5	0.4
10 - 19	108	17.3	86	15.3	194	16.3
20 - 29	182	29.1	163	29.0	345	29.0
30 - 39	119	19.0	100	17.8	219	18.4
40 - 49	69	11.0	59	10.5	128	10.8
50 - 59	70	11.2	64	11.4	134	11.3
60 - 69	51	8.1	62	11.0	113	9.5
70 - 79	17	2.7	22	3.9	39	3.3
80 +	5	0.8	7	1.2	12	1.0
TOTAL	626	100.0	563	100.0	1,189	100.0
						1.1

Source: TB Registers

Table 36: TB Case holding in the Pakistani health centres:
sputum conversion rate at the end of the 2nd month of treatment,
by sex; NWFP, 1993.

Sex	Pulmonary TB Patients			
	Sputum Smear +ve		Sputum Smear -ve	
	No.	%	No.	%
Male	563	100.0	308	54.7
Female	626	100.0	416	66.5
TOTAL	1,189	100.0	724	60.9

Source: TB Registers

Table 37: TB case holding in the Pakistani health centres:
sputum conversion rate at the end of the 2nd month of treatment
by age; NWFP, 1993.

Age Groups (Years)	Pulmonary TB Patients			
	Sputum Smear +ve		Sputum Smear -ve	
	No.	%	No.	%
0 - 9	5	100.0	2	40.0
10 - 19	194	100.0	128	66.0
20 - 29	345	100.0	226	65.5
30 - 39	219	100.0	133	60.7
40 - 49	128	100.0	75	58.6
50 - 59	134	100.0	78	58.2
60 - 69	113	100.0	59	52.2
70 - 79	39	100.0	16	41.0
80 +	12	100.0	7	58.3
TOTAL	1,189	100.0	724	60.9

Source: TB Registers

Table 38: TB Case holding in the Pakistani health centres:
sputum conversion rate at the end of the 2nd month of treatment,
by referral level; NWFP, 1993.

Referral Level	Pulmonary TB Patients			
	Sputum Smear + ve		Sputum Smear -ve	
	No.	%	After 2 Months	%
Teaching/Specialized Hospitals	352	100.0	193	54.8
Other Hospitals	109	100.0	45	41.3
TB Clinics	479	100.0	319	66.6
Rural Health Centres	18	100.0	3	16.7
Fauji Foundation	3	100.0	1	33.3
TB Association	228	100.0	163	71.5
TOTAL	1,189	100.0	724	60.9

Source:TB Registers

Table 39: TB Case holding in the Pakistani health centres
new sputum smear positive cases by outcome and sex; NWFP, 1993.

Patient Outcome	Female (F)		Male (M)		TOTAL	
	No.	%	No.	%	No.	%
Cured	229	36.6	146	25.9	375	31.5
Treat. Completed	149	23.8	128	22.7	277	23.3
Lost	202	32.3	260	46.2	462	38.9
Failures	19	3.0	8	1.4	27	2.3
Died	4	0.6	0	0.0	4	0.3
Transferred Out	23	3.7	21	3.7	44	3.7
TOTAL	626	100.0	563	100.0	1,189	100.0

Source: TB Registers

Table 40: TB Case holding in the Pakistani health facilities:
new sputum smear positive cases by age and outcome; NWFP, 1993.

Age Groups (Years)	Cured		Treatment Completed		Lost		Failures		Died		Transferred Out		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 9	2	40.0	0	0.0	3	60.0	0	0.0	0	0.0	0	0.0	5	100.0
10 - 19	67	34.5	55	28.4	59	30.4	7	3.6	1	0.5	5	2.6	194	100.0
20 - 29	113	32.8	85	24.6	133	38.6	5	1.4	0	0.0	9	2.6	345	100.0
30 - 39	71	32.4	43	19.6	91	41.6	5	2.3	0	0.0	9	4.1	219	100.0
40 - 49	41	32.0	28	21.9	50	39.1	4	3.1	0	0.0	5	3.9	128	100.0
50 - 59	47	35.1	31	23.1	47	35.1	3	2.2	1	0.7	5	3.7	134	100.0
60 - 69	25	22.1	24	21.2	56	49.6	2	1.8	1	0.9	5	4.4	113	100.0
70 - 79	7	17.9	9	23.1	17	43.6	0	0.0	1	2.6	5	12.8	39	100.0
80 +	2	16.7	2	16.7	6	50.0	1	8.3	0	0.0	1	8.3	12	100.0
TOTAL	375	31.5	277	23.3	462	38.9	27	2.3	4	0.3	44	3.7	1,189	100.0

Source: TB Registers

Table 41: TB Case holding in the Pakistani health centres:
new sputum smear positive cases by referral level and outcome; NWFP, 1993.

Referral Level	Cured		Treatment Completed		Lost		Failures		Died		Transferred Out		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Teaching/Specialized Hospitals	80	22.7	85	24.1	152	43.2	2	0.6	1	0.3	32	9.1	352	100.0
Other Hospitals	24	22.0	26	23.9	52	47.7	3	2.8	1	0.9	3	2.8	109	100.0
TB Clinics	153	31.9	144	30.1	161	33.6	16	3.3	1	0.2	4	0.8	479	100.0
Rural Health Centres	3	16.7	1	5.6	10	55.6	0	0.0	0	0.0	4	22.2	18	100.0
Fauji Foundation	0	0.0	2	66.7	1	33.3	0	0.0	0	0.0	0	0.0	3	100.0
TB Association	115	50.4	19	8.3	86	37.7	6	2.6	1	0.4	1	0.4	228	100.0
TOTAL	375	31.5	277	23.3	462	38.9	27	2.3	4	0.3	44	3.7	1,189	100.0

Source: TB Registers

Table 42: TB Control Programme among Pakistani nationals:
sputum smear examination, case registration and case holding
by the main indicators and year; NWFP, 1993-94.

Statistics	1993		1994	
	No.	%	No.	%
<u>Sputum Smear Exam.:</u>				
TB Patients Seen	8,822	---	14,072	---
Smears Examined	10,703	---	18,066	---
Smears per Patient	1.2	---	1.3	---
<u>Case Registration:</u>				
Catchment Pop.(x1000)	3,400	---	9,400	---
ARI	---	1.72	---	1.69
New PTB+ve Expected	3,216	100.0	8,747	100.0
New PTB+ve Registered	1,282	39.9	1,651	18.9
Registr. Rate (x100000)	38		18	
New PTB+ve cases	1,282	32.9	1,651	31.8
New PT -ve cases	1,684	43.2	2,268	43.7
New EP cases	930	23.9	1,267	24.4
Total new TB cases	3,896	100.0	5,186	100.0
<u>New PTB+ve Holding:</u>				
Cured	375	31.5		
Treatment Completed	277	23.3		
Lost	462	38.9		
Failures	27	2.3		
Died	4	0.3		
Transferred Out	44	3.7		
Total New PTB+ve	1,189	100.0		
Success Rate	---	55.0		

Sources: TB Monthly Reports and TB Registers

Notes: ARI estimated in 1993 by a tuberculin survey;

1.63% is the ARI annual downtrend considered in this table

Populations are of uncertain calculation

Success Rate = (Cured + Treatment Compl.)/(Total-Died)x100

Table 43: TB Case holding in the Pakistani health centres
sputum conversion rate at the end of the 3rd/4th month of retreatment
by referral level; NWFP, 1993.

Referral Level	Patient's Sputum Smear			
	Sputum Smear +ve At Start Treatment No.	%	Sputum Smear -ve After 3/4 Months No.	%
Teaching/Specialized Hospitals	6	100.0	2	33.3
TB Clinics	29	100.0	13	44.8
TB Association	4	100.0	2	50.0
TOTAL	39	100.0	17	43.6

Source: TB Registers

Table 44: TB Case holding in the Pakistani health centres:
retreatment cases by outcome and sex; NWFP, 1993.

Patient Outcome	Female (F)		Male (M)		TOTAL	
	No.	%	No.	%	No.	%
Cured	4	17.4	6	37.5	10	25.6
Treat. Completed	1	4.3	2	12.5	3	7.7
Lost	5	21.7	3	18.8	8	20.5
Failures	13	56.5	5	31.3	18	46.2
Died	0	0.0	0	0.0	0	0.0
Transferred Out	0	0.0	0	0.0	0	0.0
TOTAL	23	100.0	16	100.0	39	100.0

Source: TB Registers

Table 45: TB Case holding in the Pakistani health centres:
retreatment cases by age and outcome; NWFP, 1993.

Age Groups (Years)	Cured		Treatment Completed		Lost		Failures		Died		Transferred Out		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	100.0
10 - 19	2	28.6	0	0.0	2	28.6	3	42.9	0	0.0	0	0.0	7	100.0
20 - 29	1	16.7	0	0.0	0	0.0	5	83.3	0	0.0	0	0.0	6	100.0
30 - 39	4	30.8	1	7.7	2	15.4	6	46.2	0	0.0	0	0.0	13	100.0
40 - 49	2	40.0	0	0.0	0	0.0	3	60.0	0	0.0	0	0.0	5	100.0
50 - 59	1	20.0	1	20.0	2	40.0	1	20.0	0	0.0	0	0.0	5	100.0
60 - 69	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0	2	100.0
70 - 79	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	100.0
80 +	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
TOTAL	10	25.6	3	7.7	8	20.5	18	46.2	0	0.0	0	0.0	39	100.0

Source: TB Registers

Table 46: TB Case holding in the Pakistani health centres:
retreatment cases by referral level and outcome; NWFP, 1993.

Referral Level	Cured		Treatment Completed		Lost		Failures		Died		Transferred Out		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Teaching/Specialized Hospitals	0	0.0	1	16.7	1	16.7	4	66.7	0	0.0	0	0.0	6	100.0
TB Clinics	9	31.0	2	6.9	6	20.7	12	41.4	0	0.0	0	0.0	29	100.0
TB Association	1	25.0	0	0.0	1	25.0	2	50.0	0	0.0	0	0.0	4	100.0
TOTAL	10	25.6	3	7.7	8	20.5	18	46.2	0	0.0	0	0.0	39	100.0

Source: TB Registers

Table 47: Resistance to anti-TB drugs among Pakistani patients: results out of 29 tests for initial resistance and 268 tests for acquired resistance; NWFP, Jan-Dec 1994.

Resistance to:	Drugs	Initial Res. (29 tests)		Acquired Res. (268 tests)	
		No.	%	No.	%
1 drug	H	1	3.4	4	1.5
	R		0.0	5	1.9
	S	5	17.2	4	1.5
	E		0.0	2	0.7
	Z		0.0	4	1.5
	Total	6	20.7	19	7.1
2 drugs	H+E		0.0	2	0.7
	H+S	2	6.9	4	1.5
	H+Z	1	3.4	5	1.9
	H+R		0.0	3	1.1
	R+S		0.0	2	0.7
	R+E		0.0	2	0.7
	R+Z		0.0	3	1.1
	S+Z		0.0	11	4.1
	Total	3	10.3	32	11.9
3 drugs	H+R+E		0.0	3	1.1
	H+R+Z		0.0	4	1.5
	H+S+E		0.0	2	0.7
	H+S+Z		0.0	6	2.2
	H+E+Z		0.0	2	0.7
	H+E+T		0.0	1	0.4
	H+Z+T		0.0	1	0.4
	R+S+E		0.0	3	1.1
	R+S+Z		0.0	5	1.9
	R+E+Z		0.0	1	0.4
	S+E+Z		0.0	3	1.1
	S+Z+T		0.0	1	0.4
	Total	0	0.0	32	11.9
4 drugs	H+R+S+E		0.0	5	1.9
	H+R+S+Z		0.0	5	1.9
	H+R+E+Z		0.0	4	1.5
	H+S+E+Z		0.0	6	2.2
	H+E+Z+T		0.0	2	0.7
	R+S+Z+T		0.0	1	0.4
	R+S+E+Z		0.0	14	5.2
	R+S+E+T		0.0	2	0.7
	Total	0	0.0	39	14.6
5 drugs	H+R+S+E+Z		0.0	22	8.2
	H+R+S+E+T		0.0	4	1.5
	H+R+S+Z+T		0.0	2	0.7
	H+R+E+Z+T		0.0	4	1.5
	H+S+E+Z+T		0.0	6	2.2
	R+S+E+Z+T		0.0	2	0.7
	Total	0	0.0	40	14.9
6 drugs	H+R+S+E+Z+T	0	0.0	30	11.2
Main Total		9	31.0	192	71.6

Note: H = isoniazid; R = rifampicin; S = streptomycin; E = ethambutol; Z = pyrazinamide; T = thiacetazone.

Table 48: Resistance to individual anti-TB drugs among Pakistani patients: results out of 29 tests for initial resistance and 268 tests for acquired resistance. NWFP, Jan-Dec 1994.

Drug	Initial Res. (29 tests)		Acquired Res. (268 tests)	
	No.	%	No.	%
H	4	13.8	152	56.7
R		0.0	126	47.0
S	7	24.1	140	52.2
E		0.0	122	45.5
Z	1	3.4	144	53.7
T		0.0	55	20.5

Note: H = isoniazid; R = rifampicin; S = streptomycin; E = ethambutol; Z = pyrazinamide; T = thiacetazone.

Table 49: Initial resistance to anti-TB drugs among Pakistani patients: results out of 29 tests by age. NWFP, Jan-Dec 1994.

Initial Resistance to:	Drugs	Age Group (years)							Un- Known	Total
		0-9	10-19	20-29	30-39	40-49	50-59	60 +		
1 drug	H		1	2			1			1
	S				1		1			5
2 drugs	H+S		1						1	2
	H+Z		1							1
Total Patients Resistant (No.)		0	3	2	1	0	2	0	1	9
Total Patients Tested (No.)		0	10	9	4	1	2	2	1	29
Total Patients Resistant (%)		0.0	30.0	22.2	25.0	0.0	100.0	0.0	100.0	31.0

Note: H = isoniazid; R = rifampicin; S = streptomycin; E = ethambutol; Z = pyrazinamide; T = thiacetazone.

